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明 細 書

1. 発明の名称

油脂組成物及びその製造法

2. 特許請求の範囲

- カラヤガム、トラガントガム及びベクチンからなる群から選ばれた天然ガム剤、及びグリセリン脂肪酸エステルを含有することを特徴とする油中水型乳化油脂組成物。
- 予めカラヤガム、トラガントガム及びベクチンからなる群から選ばれた天然ガム剤、及びグリセリン脂肪酸エステルを溶解若しくは分散させた油相と、水相とを、油相が系全体に対して50～90重量%になる様混合乳化後、急冷可塑化することを特徴とする油中水型乳化油脂組成物の製造法。

3. 発明の詳細な説明

〔産業上の利用分野〕

本発明は油脂組成物及びその製造法に関する。
 更に詳しくは、パン生地への練り込み速度が速く、且つパンのソフト化効果及びパンの食感

向上（パンがねとつかない）効果を有するカラヤガム、トラガントガム及びベクチンからなる群から選ばれた天然ガム剤、及びグリセリン脂肪酸エステルを含有する油脂組成物及びその製造法に関する。

〔従来の技術及びその問題点〕

製パン用練り込み油脂は液状及び結晶状の油脂が均一に混ざりあった可塑性を有する固形脂であるのが良いとされ、古くからバターやラードが使用されてきた。近年になり、この分野の研究が進みバターやラードに比較し、作業性の良いマーガリンやショートニング等の加工油脂が開発され使用されている。

製パン用練り込み油脂組成物として最も重要な機能は製パン工程中のミキシング時に油脂が生地のすみずみまで均一に、且つ短時間に分散する事である。練り込み油脂が生地のすみずみまで均一に分散すると菓子、パンの品質が良好になることが知られている。例えば、油脂を加えた後、さらにミキシングして生地がのびるよ

* NOTICES *

1. This document has been translated by computer.

So the translation may not reflect the original precisely.

2. **** shows the word which can not be translated.

3. In the drawings, any words are not translated.

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ABSTRACT

Because this bulletin is application data before the electronic application, the data of the abstract are not recorded.

WHAT IS CLAIMED IS:

1,

It is a water type emulsification oils and fats composition in a natural gum agent and the oil including containing fatty acid ester of glycerin selected from the group comprising karaya gum, Tragacanth gum and the pectin.

2,

It is the manufacturing process of the water type emulsification oils and fats composition in the oil including an oil aspect making dissolution or a scattered oil aspect and a water aspect quenching plasticity after mixed emulsification with a nature gum agent selected from the group comprising karaya gum, Tragacanth gum and the pectin beforehand and fatty acid ester of glycerin so that it is to 50-90% by weight to the whole system.

DETAILED DESCRIPTION OF THE INVENTION

INDUSTRIAL APPLICATION FIELD

The present invention relates to oils and fats composition and the manufacturing process. More particularly,

Oils and fats composition containing the karaya gum that it is kneaded, and speed is fast and software of the bread has an effect and a texture improvement (bread is not sticky) effect of the bread to dough, Tragacanth gum and a nature gum agent chosen by the group comprising the pectin and fatty acid ester of glycerin and the manufacturing process are related to.

[Prior art and the problems]

The oils and fats that kneading on fire for bread to produce included were referred to that liquid and crystal-shaped oils and fats have had better be the solidity fat which had the plasticity that mixed uniformly, and butter and lard have been used for a long time.

It is late years, and the study of this field advances, and processing oils and fats such as the work-related preferable margarine or shortening are developed, and it is used

compared to butter and the lard.

Oils and fats are in equality and to disperse in a short time at the time of mixing in the bread process that the most important function produces as oils and fats composition including kneading on fire for bread to produce to the every corner of the dough.

When it is kneaded, and oils and fats disperse uniformly to the every corner of the dough, it is known that a cake, quality of the bread become good.

For example,

After having added oils and fats, (develop time of the dough) shortens at time before it is further mixed, and cloth coming to lengthen, and stability of mix-kneading improves, and the extensibility improves, and the expansion grows big.

Also,

There becomes little loss by the adhesion of the dough to a machine, and the damage with the machine of the dough surface in degassing decreases.

Even more particularly, the crust where dough stability during the burning improves, and the volumes of the product increase, and the texture is small is thin, such as it is baked, and the thing that there are few irregularities being provided it is advantageous in.

It is necessary for the oils and fats that kneading on fire for bread to produce in this way includes to disperse at the time of mixing uniformly to the every corner of the dough.

Also, it is that it goes without saying that it is useful so as to be short if short at mixing time required for scattering uniformly.

That is,

When mixing time is set constantly, a short thing of the time to need that oils and fats disperse uniformly is more convenient.

The effort that devised the range where the solid fat index of oils and fats at the time of the mixing was suitable in the study conventional for a method to obtain the kneading on fire oils and fats which included for bread to produce which dispersed and a method and the solidity fat of the high melting point and low melting solidity fat and liquid state oil were blended moderately so that it was or cooling was strengthened still more at suddenly cold time to knead, and to knead has been done uniformly and in a short time to the every corner of the dough, but it is not satisfactory enough for kneading on fire oils and fats including for bread to produce.

Because the damage of merely dough is reduced only by the simple preparation of the solid fat index, and it is only an effect scattered in dough uniformly, and it makes bread characteristics of wheat flour oneself made shown enough, and slightly soft bread can be provided.

Also,

The study of the oils and fats composition which various kinds of functionality were given to is accomplished recently.

For example,

The edible solid oils and fats including containing starch or modified starch are disclosed in JP 55-71446.

However,

The said publication of unexamined applications reduces temperature dependence using starches, and the plasticity in the use temperature range is kept with dough equally, and it is preferable in dough, and it is main in lengthening, and work-related improvement is only helped, and starch or the modified starch does not contribute to the softness of the bread at all essentially.

Also,

The margarine which pH of the water aspect is prepared to 1-5, and consists is disclosed in JP 55-26804 by water-soluble organic acid.

However,

When the bread made with the margarine which does not add bread and acid made with margarine using the acid which the said publication of unexamined applications refers to is compared, the effect that bread softens is reliable in an embodiment of the said publication of unexamined applications, as shown, but, as for the bread which is softer than well-known fatty acid ester of glycerin, this is also insufficient without being provided.

Also,

The water aspect part of 50-95% of oil aspect parts that 2-10% of emulsifiers were in JP 51-151372 and 50-5% is emulsified, and gas is put 10-50cc/g during quenching plasticization, and the manufacturing process of the oils and fats composition which made disperse uniformly is disclosed.

However,

As for the advantage by putting gas, it seems that the said publication of unexamined applications is read in detail only at merely mixture with the point that an evaluation comes to have good, and some questions stay in there being an aging prevention effect.

That is,

There are many places to suffer from judgment, and there are many well-known emulsifiers, and, according to what was added, the said publication of unexamined applications can be determined as for at least aging prevention effect.

Thus,

It may be said that there is not the effect with gas in the prevention of aging at all.

Also,

If a lot of emulsifiers are used, there are problems that bread becomes often sticky.

In this respect, the said publication of unexamined applications is insufficient to obtain good bread.

Also,

The oils and fats composition which added a thickener is disclosed in the Japanese Patent Publication No. 45-3224 bulletin concerning the applicant's application, JP 58-183030, but if when a thing having thickening characteristics is used in water aspect part, it is compared to the thing which is not so, to dough it is kneaded, and the speed becomes fast, and mixing tolerance of the dough, the quality of the bread improve drastically.

If having thickening characteristics and the thickening-related material has an aging prevention effect of remarkable bread, this shows that the bread which is better in the oils and fats composition which used this for water aspect part is provided.

MEANS TO SOLVE THE PROBLEM

As a result that these inventors studied zealously to find the oils and fats composition which it was kneaded, and speed was fast and bread software had an effect and was extremely effective for the improvement (bread is not sticky) of the texture of the bread to the dough of oils and fats, the present invention was finished.

That is,

Detailed a water type emulsification oils and fats composition in the oil including the present invention containing karaya gum, Tragacanth gum and a nature gum agent chosen by the group comprising the pectin and fatty acid ester of glycerin, to dough it is kneaded, and speed is fast and it is made software for bread and a texture improvement oils and fats composition is provided.

The present invention provides the manufacturing process of the water type emulsification oils and fats composition in the oil including manufacturing process of the oils and fats composition which further appears namely an oil aspect making dissolution or a scattered oil aspect and a water aspect quenching plasticity after mixed emulsification with karaya gum, Tragacanth gum and a nature gum agent chosen by the group comprising the pectin and fatty acid ester of glycerin beforehand so that it is to 50-90% by weight to the whole system.

The karaya gum to refer to with the present invention is compound polysaccharides acetylated partially exuding from a tree called the *sterculia urens*.

D-galacturonic acid, D-galactose, L-rhamnose and acetic acid are provided when hydrolyzed.

Also, as for the Tragacanth gum to refer to with the present invention, viscosity to exude from the trunk of several kinds of shrubs of the astragal genus of the Leguminosae is high. The Tragacanth gum consists of at least two kinds of polysaccharides, bassorin of the water insolubility, water-soluble Tragacanthin.

As for the chief ingredient of polysaccharides, xylose, fucosyl xylose, galacto-xylose couple to the main chain of the 1.4-binding galacturonic acid 1.3 as a side chain with tragacanthic acid.

The pectin to also refer to with the present invention is defined as "the thing which can

form sugar and acid and gel under suitable many conditions with solution pectic acid having various methyl ester contents and neutralization degrees" with the material which fruit or vegetables include generally (on story of the stabilizer, August 20, 1985, Nichiei- chemical is published.)

37-49 pages of description).

Because it thickens when the natural gum agent dissolves dispersion in a water aspect, and oils and fats compositions of the present invention are produced and can be full of work characteristics, and it worsens, dispersion dissolves in an oil aspect beforehand, and it is produced, and a part or a manufacturing process to transfer all is desirable for a water aspect during production.

Fatty acid ester of glycerin to refer to with the present invention is the ester of glycerin and the fatty acid, and glycerin fatty acid monoester (popular name monoglyceride), glycerin organic acid fatty acid monoester, polyglycerin fatty acid monoester, polyglycerin condensation Ricinoleic acid ester are shown.

The glycerin fatty acid monoester is the next general formula

*

A formula

*

(Wherein, RCO represents a fatty acid residue of number of carbon 12-24.)

A fatty acid residue coming from lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, docosanoic acid for a fatty acid residue (RCO-) is included, and a fatty acid residue coming from saturated fatty acid among especially these is preferred.

It is homogeneous, and the fatty acid residue is preferable, but of course even mixed systems two kinds or more are preferable.

The glycerin organic acid fatty acid monoester is the compound which esterified a -OH group of the third place of the glycerin fatty acid monoester with organic acid with a thing represented in the next general formula (2).

CH₂OOCR

CHOH (2)

CH₂OA

(Wherein, in RCO, fatty acid residue of number of carbon 12-24, A represents an organic acid residue.)

For the embodiment of the fatty acid residue (RCO-), it is similar to the embodiment of the fatty acid residue of the glycerin fatty acid monoester.

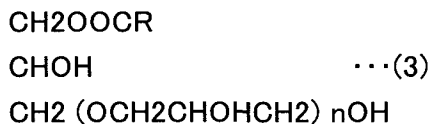
The -A group is the general term of the residue to come from the next organic acid in a general formula (2).

That is, amino acids such as acetic acid, propionic acid, aliphatic monocarboxylic acid, oxalic acid, fatty series saturated dicarboxylic acids such as the succinic acid, maleic acid, aliphatic unsaturated dicarboxylic acid such as the fumaric acid, lactic acid, malic acid, tartaric acid, diacetyl tartaric acid, oxy acid such as the citric acid comprised of lower fatty acids such as the butyric acid and glycine, aspartic acid are exemplified.

For purposes of the present invention, either glycerin organic acid fatty acid monoester is effective if it is the organic acid, but citric acid in particular, succinic acid, tartaric acid, diacetyl tartaric acid are preferred.

Also, the commercial glycerin organic acid fatty acid monoester includes organic acid or the glycerin fatty acid monoester of non-reaction partly, but even if it is used for the present invention, it does not interfere.

The polyglycerin fatty acid monoester is a compound represented in the next general formula (3).



(wherein, in RCO, fatty acid residue of number of carbon 12-24, n shows a degree of polymerization of glycerol and are 1-9 integer values.)

It is similar to the embodiment of the fatty acid residue of the glycerin fatty acid monoester for the embodiment of the fatty acid residue (RCO-).

For polyglycerin comprising polyglycerin fatty acid monoester, it is compounds one kind or two kinds or more chosen by the group comprising tetraglycerin, pentaglycerin, hexaglycerin, heptaglycerin, octaglycerin, nonaglycerin, decaglycerin.

Polyglycerin condensation Ricinoleic acid ester is polyglycerin and ester with the condensation Ricinoleic acid, and mixtures of a thing with the condensation Ricinoleic acid of condensation degree 3-5 of polyglycerin and the ricinoleic acid of glycerin degree of polymerization 2-3 or the diester are usually used.

As for the natural gum agent and weight ratio of the fatty acid ester of glycerin of the oils and fats composition in the present invention, a range of 1:0.1 - 10 is preferable.

When the balance of this ratio is inclined to the natural gum agent side (i.e., less than 1:0.1), the burnt bread comes to be available when lack comes to show a slight, and the softness deviates to the fatty acid ester of glycerin side adversely (i.e., a case more than 1:10) when the burnt bread is the texture top and becomes unsatisfactory for bread together.

That is,

This ratio is important bread is tender and not to be sticky.

Also,

Both can add the natural gum agent and addition quantity of the fatty acid ester of glycerin in oils and fats composition of the present invention, and it should be 1–10% by weight in oils and fats composition.

There are few effects on bread with less than 1% by weight, and 10% by weight may be exceeded, but because it is the effect that is approximately equal to a range of 1–10% by weight, it is watched by cost considerations, and nonsense too much.

There is not a limit in particular, and, about the edible oils or fats used for oils and fats composition of the present invention, whichever of the animal fats such as bean oil, a rapeseed oil, palm oil, corn oil, cotton seed cake oil, coconut oil, plant oils and fats such as the palm nucleus oil, beef fat, lard, a fish oil, whale oil, the cream can be used, and a hydrogenation treated thing and the thing which changed ester can also use these.

Also, there is not the limit of the solid fat index (SFI) of the oils and fats which can be used for the present invention particularly, but there should be usually as far as it is worked out, and is loaded.

That is,

It should be a thing in the range of 2–35 in 5 degrees Celsius – 35 degrees Celsius.

Preferably,

A solid fat index has good 2–20 things at 10–30, 35 degrees Celsius at 20 degrees Celsius.

The method to prepare oils and fats composition of the present invention can give the methods shown in follows, but is not limited to these production methods in particular.

That is,

Fatty acid ester of glycerin is added in the oils and fats that it heats beforehand, and it is melted, and it is mixed, and it melts.

Then, a natural gum agent is added, and it disperses.

An emulsifier except the fatty acid ester of glycerin, e.g., lecithin, a propylene glycol fatty acid ester, a sorbitan fatty acid ester, a sucrose fatty acid ester may be used together as needed.

A water aspect (the flavor such as salt, protein, the saccharide may be added as needed) prepared beforehand is added in the oil aspect part, and it is stirred, and it is mixed, and a rough emulsion is made.

Then, oils and fats composition of the present invention is provided by carrying out quenching plasticization by a fixed method.

If oils and fats composition of the present invention is prepared, when it is faced, it is suitable to do the ratio (weight ratio) of an oil aspect and the water aspect with from 50:50 to 90:10.

The preferred combination ratio of each ingredient of oils and fats compositions of the present invention is natural gum agent 0.5–5% by weight more preferably 1–4% by weight, fatty acid ester of glycerin 0.5–5% by weight more preferably 1–4% by weight, oils and fats

50–90% by weight more preferably 55–80% by weight, water 9–49% by weight more preferably 15–35% by weight.

Yeast, yeast food, oils and fats (shortening, lard, margarine, butter, liquid oil), water, dairy products, salt, a saccharide are added, and, for a method to produce bread using oils and fats composition of the present invention, the wheat flour as raw materials to produce bread, e.g., the main material includes methods higher than such as an emulsifier, seasoning (monosodium glutamate and nucleic acids), a preservative, vitamins, potentiators such as calcium, protein, an amino acid, a chemistry expanding agent, the beauty one kind or two kinds are added as needed, and it mix-kneads, and it passes through a fermentation process, and to burn.

The bread which oils and fats composition of the present invention is kneaded into includes the bread which did fillers such as the filling, and bread, special bread, cooking bread, a sweet roll, steamed bread are included.

Specifically,

Bread includes manchet, black bread, French bread, variety bread, a roll (a table roll, vans, a buttered roll).

Grissini, a muffin, cooking bread including the rusk include jam bun, bean-jam bun, cream bread, raisin bread, melon bread, suite roll, Rich goods (croissant, a brioche, Danish pastry) for a hot dock, a hamburger, a sweet roll including the pizza pie, and special bread includes a steamed meat bun, a steamed bun for steamed bread.

EXAMPLE

An embodiment (including an example, the comparative example) is shown next, and the present invention is described in detail, but the present invention is not limited to these embodiments.

Example 1

Mixed oil (on the pretence of as follows mixed oil (1)) 80.4% by weight comprising hardening fish oil 50% by weight of rise melting point 29 degrees Celsius, hardening fish oil 30% by weight of rise melting point 36 degrees Celsius, palm oil 10% by weight and rape essential rape oil 10% by weight was heated, and it melted, and addition / a mix melted, and addition further scattered karaya gum 1.0% by weight, and lecithin 0.1% by weight and high purity glycerin fatty acid monoester (more than brand name Eki cell T-95, monoglyceride comprising the monopalmitin of monostearin and approximately 25% by weight of approximately 75% by weight, monoglyceride content 95% by weight, made in Kao Corporation) 2.0% by weight were done with oil aspect part in this.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

A water aspect part was added to oil aspect part slowly, and oils and fats composition was obtained through a quenching plasticization machine (combinator) after emulsification mixture while stirring an oil aspect part with RPM of 7000rpm using a homomixer (made a

special plane).

Example 2

Mixed oil (1) 73.4% by weight as shown in Example 1 was heated, and it melted, and addition / mixture melted, and addition further scattered karaya gum 3.0% by weight, and high purity glycerin fatty acid monoester 1.0% by weight used for this with lecithin 0.1% by weight, Example 1 did polyglycerin fatty acid monoester () made in hexaglycerin monostearate (brand name SY Grester MS -500, printed book Yakuhin Kogyo Co., Ltd.) 1.0% by weight of degree of polymerization 6 of the stearate subject with oil aspect part.

Water 21.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Example 3

Mixed oil (1) 79.4% by weight as shown in Example 1 is heated, and it melts, and addition mixes glycerin succinic acid fatty acid monoester 2.0% by weight that lecithin 0.1% by weight, palmitic acid and the stearate ratio derived from a fatty acid at 1:1 in this, and it melts, and pectic 1.0% by weight is added more, it dispersed, and it was done with, oil aspect part.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Example 4

Hardening fish oil 30% by weight of rise melting point 29 degrees Celsius, hardening fish oil 20% by weight of rise melting point 36 degrees Celsius, mixed oil ("on the pretence of as follows mixed oil (2)) 78.4% by weight comprising lard 50% by weight were heated, and it melted, and addition / a mix melted, and addition scattered Tragacanth gum 2.0% by weight more, and high purity glycerin fatty acid monoester 3.0% by weight used for this with lecithin 0.1% by weight, Example 1 was done with oil aspect part.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Comparative example 1

Mixed oil (1) 79.4% by weight as shown in Example 1 was heated, and it melted, and addition / mixture melted, and addition further scattered Guar gum 2.0% by weight, and lecithin 0.1% by weight and high purity glycerin fatty acid monoester 2.0% by weight used with Example 1 were done with oil aspect part in this.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Comparative example 2

Mixed oil (1) 78.4% by weight as shown in Example 1 was heated, and it melted, and addition / mixture melted, and addition further scattered locust bean gum 260% by weight, and lecithin 0.1% by weight and polyglycerin fatty acid monoester 3.0% by weight used with Example 2 were done with oil aspect part in this.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Comparative example 3

Mixed oil (2) 80.4% by weight as shown in Example 4 was heated, and it melted, and addition / a mix melted, and lecithin 0.1% by weight and high purity glycerin fatty acid monoester 3.0% by weight used with Example 1 were done with oil aspect part in this.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Comparative example 4

Mixed oil (2) 83.4% by weight as shown in Example 4 was heated, and it melted, and lecithin 0.1% by weight was added, and it was mixed with this, and it melted, and it was done with an oil aspect part.

Water 16.5% by weight was heated next, and this was assumed a water aspect part.

Emulsification / mixture / the quenching plasticization was conducted in a condition same as Example 1, and oils and fats composition was obtained.

Reference example 1

A production condition of bread dough and the bread, the manufacturing method and an evaluation method of the bread

Oils and fats composition provided with embodiment 1-4 and comparative example 1-4 is used, and, based on combination shown in Table 1, bread is produced by the 70% sponge dough method, and the bread is evaluated.

Using a vertical mixer (Kanto-mixer 10 coats), a hook, and sponge dough combination materials were put in a ball, and it mix-kneaded in high-speed one minute during low-speed two minutes, and cooking up temperature was done with 24 degrees Celsius, and sponge dough was prepared.

Sponge dough combination materials:

(strong wheat flour 70 parts by weight, yeast 2 parts by weight, yeast food 0.1 parts by weight, water 40 parts by weight), here are assumed basic combination.

When an additive is put, addition (even mixing is preferable basically) is made in this sponge dough.

It made this make fermentation (sponge dough fermentation) next.

A condition of this time is shown as follows.

Sponge dough fermentation temperature

27 degrees Celsius

Sponge dough fermentation relative humidity

75%

Sponge dough fermentation time

Four hours 30 minutes

The article temperature of the terminal of the sponge dough fermentation

29.5 degrees Celsius

After mixing combination materials were added in this sponge dough fermentation dough next, and having mix-kneaded in high-speed four minutes during low-speed three minutes, oils and fats composition was added, and it mix-kneaded more in high speed three minutes during low speed two minutes, and it was done with mixing dough.

Strong wheat flour 30 parts by weight, salt 2 parts by weight, sugar 5 parts by weight, powdered skim milk 1 part by weight, water 25 parts by weight, oils and fats composition 5 parts by weight, here are assumed basic combination, and when an additive is put, it may be added in this mixing, and water of the required amount may be added, if necessary.

(Only the oils and fats composition adds in the middle of mix-kneading)

Dough temperature of this time is approximately 27.5 degrees Celsius.

Table1. 70% of list sponge dough bread basics combination

Then

The floor time is taken for 20 minutes to revive the dough which received damage in mix-kneading, and it is divided in dough of 450g in this back.

The bench time is taken at room temperature for 20 minutes to revive the dough which received damage by the division, and the form is fixed in molding machine.

The thing which fixed the form was put in a bread type of the one loaf, and fermentation (final proof) was performed.

A condition of the final proof is shown below.

Final proof temperature

37 degrees Celsius

Final proof relative humidity

80%

Final proof time

50 minutes

It burnt with an oven of 210 degrees Celsius with dough prepared in this way 30 minutes.

After having cooled off at 20 degrees Celsius after burning for 45 minutes, was in the plastic bag, and it was made sealing up, and it was further saved at 20 degrees Celsius (48 hours) for two days, and it was done with a bread sample.

This bread was cut to constant size (2, 5cmX2.5cmX2.0cm) in the part of the fixed distance (a 6 mark) from the edge 48 hours later, and Baker's-compressi-meter (a product made in Chiyoda Manufacturing) was used about a sample of provided cubicalness, and hardness of the bread was measured, and the softness of the bread was evaluated.

As the small thing of measurements, it is shown that bread is tender.

Also,

The texture was evaluated functionally.

A result is shown in Table 2 in a mass.

Note that,

The manufacturing processes of this bread are as follows.

Quantity of sponge dough combination materials

Strong wheat flour 70 parts by weight

Yeast

2 parts by weight

Yeast food 0.1 parts by weight

Water

40 parts by weight

↓

It mix-kneads

↓

Sponge dough fermentation (27 degrees Celsius, four hours 30 minutes)

↓

Quantity of mixing combination materials

Strong wheat flour 30 parts by weight

Salt

2 parts by weight

Sugar

5 parts by weight

Powdered skim milk

1 part by weight

Water

25 parts by weight

Oils and fats composition 5 parts by weight

↓

Mixing



Floor time (20 minutes)



The division



Bench time (room temperature, 20 minutes)



The form is fixed



Final proof (37 degrees Celsius, 50 minutes)



Burning (210 degrees Celsius, 30 minutes)



Bread

Table 2. An evaluation with the bread

Note)

*1: A judgment of the softness of the bread

Circle...50 g of heavy under

Triangle...50 g of heavy above, 60 g of heavy under

Cross...60 g heavy, the above

*2: A texture (a sensuality evaluation) of the bread

Circle...Eight or more out of the panel of ten people accepted that bread was not sticky.

Triangle... In the panels of ten people, 3-7 people admitted that bread was not sticky.

Cross...Eight or more out of the panel of ten people accepted that bread was sticky.

Reference example 2

Oils and fats composition provided with evaluation method embodiment 1-4 of a production condition of raisin dough and the raisin bread, the manufacturing method and the raisin bread and comparative example 1-4 is used, and, based on combination shown in Table 3, raisin vans are produced by the 70% sponge dough method, and the raisin bread is evaluated.

Using a vertical mixer (10 Kanto mixer coats), a hook, and sponge dough combination

materials were put in a ball, and it mix-kneaded in high-speed one minute during low-speed three minutes, and cooking up temperature was done with 24 degrees Celsius, and sponge dough was prepared.

(strong wheat flour 70 parts by weight, yeast 3 parts by weight, yeast food 0.1 parts by weight, water 40 parts by weight), here are assumed basic combination.

When an additive is put, addition (even mixing is preferable basically) is made in this sponge dough.

It made this make fermentation (sponge dough fermentation) next.

A condition of this time is shown as follows.

Sponge dough fermentation temperature

27 degrees Celsius

Sponge dough fermentation relative humidity

75%

Sponge dough fermentation time

Four hours

The article temperature of the terminal of the sponge dough fermentation

29 degrees Celsius

After mixing combination materials were added in this sponge dough fermentation dough next, and having mix-kneaded in high-speed two minutes during low-speed three minutes, oils and fats composition was added, and it mix-kneaded more in high speed two minutes for high speed one minute during low speed three minutes, and raisin was added more, and it mix-kneaded for low speed two minutes.

Mixing combination materials

Strong wheat flour 30 parts by weight, yeast 0.5 parts by weight, salt 1.7 parts by weight, sugar 10 parts by weight, powdered skim milk 2 parts by weight, water 22 parts by weight, oils and fats composition 6 parts by weight, raisin 50 parts by weight (the oils and fats composition adds in the middle of mix-kneading, and the raisin then adds), here are assumed basic combination.

When an additive is put, it may be added in this mixing.

Water of the required amount may be added, if necessary.

Dough temperature of this time is approximately 27.5 degrees Celsius.

Table 3. 70% sponge dough raisin bread basics combination

Then, the floor time is taken for 20 minutes to revive the dough which received damage in mix-kneading, and it is divided in dough of 450g in this back.

The bench time is taken at room temperature for 20 minutes to revive the dough which received damage by the division, and the form is fixed in molding machine.

Then

A cosmetic surgery thing was put in a bread type of the one loaf, and fermentation (final proof) was performed.

A condition of the final proof is shown below.

Final proof temperature

38 degrees Celsius

Final proof relative humidity

80%

Final proof time

50 minutes

It burnt with an oven of 210 degrees Celsius with dough prepared in this way 25 minutes. After having cooled off at 20 degrees Celsius after burning for 45 minutes, was in the plastic bag, and it was made sealing up, and it was further saved at 20 degrees Celsius (48 hours) for two days, and it was done with a raisin bread sample.

The softness of the bread was evaluated functionally by can touch with ten pieces of raisin bread cut this raisin bread with constant size (1.5cm) from the part of the fixed distance (6cm) 48 hours later by the edge by hand.

Also, the texture was evaluated functionally.

A result is shown in Table 4 in a mass.

Note that,

The manufacturing processes of this raisin bread are as follows.

Quantity of sponge dough combination materials

Strong wheat flour 70 parts by weight

Yeast

3 parts by weight

Yeast food 0.1 parts by weight

Water

40 parts by weight

↓

It mix-kneads

↓

Sponge dough fermentation (27 degrees Celsius, four hours)

↓

Quantity of mixing combination materials

Strong wheat flour 30 parts by weight

Yeast 0.5 parts by weight

Salt

1.7 parts by weight

Sugar

10 parts by weight

Powdered skim milk

2 parts by weight

Water

22 parts by weight

Oils and fats composition 6 parts by weight

Raisin

50 parts by weight

↓

Mixing

↓

Floor time (20 minutes)

↓

The division

↓

Bench time (room temperature, 20 minutes)

↓

The form is fixed

↓

Final proof (38 degrees Celsius, 45 minutes)

↓

Burning (210 degrees Celsius, 25 minutes)

↓

Raisin bread

Table 4. An evaluation with the raisin bread Note)

*

1:

A judgment of the softness of the bread

Circle...Eight or more out of the panel of ten people accepted that bread was tender.

Triangle...In the panels of ten people, 3-7 people admitted that bread was tender.

Cross...Eight or more out of the panel of ten people accepted that bread was hard.

*

2:

A texture (a sensuality evaluation) of the bread

Circle...Eight or more out of the panel of ten people accepted that bread was not sticky.

Triangle...In the panels of ten people, 3-7 people admitted that bread was not sticky.

Cross...Eight or more out of the panel of ten people accepted that bread was sticky.

Reference example 3

Using oils and fats composition provided with evaluation method embodiment 1-4 of the production condition of brioche dough and the brioche, the manufacturing method and the brioche and comparative example 1-4, brioches are produced by a straight method based on combination shown in Table 5, and the brioche is evaluated.

Using a vertical mixer (10 Kanto mixer coats), a hook, combination materials were put in a ball, and oils and fats composition 40 parts by weight was added after mix-kneading in high-speed four minutes during low-speed three minutes, and it mix-kneaded more in high speed nine minutes for high speed two minutes during low speed nine minutes.

Combination materials

:

(strong wheat flour 100 parts by weight, yeast 5 parts by weight, salt 2 parts by weight, sugar 15 parts by weight, powdered skim milk 4 parts by weight, egg 50 parts by weight, water 11 parts by weight), here are assumed basic combination.

When an additive is put, it is further added here.

Dough temperature of this time is approximately 23.5 degrees Celsius.

Table 5. Straight method brioche basics combination

Then, the floor time is taken for 15 minutes to revive the dough which received damage in mix-kneading, and refrigeration ferments at 5 degrees Celsius more for 12 hours, and temperature of the dough is raised to objective temperature at 30 degrees Celsius after this for approximately one hour.

In this case it is raised to approximately 25 degrees Celsius.

It is divided into dough of 30g in this next.

The bench time is taken at room temperature for 20 minutes to revive the dough which received damage by the division, and it has orthopedic treatment.

Then

A cosmetic surgery thing was put to the top, and fermentation (final proof) was performed.

A condition of the final proof is shown below.

Final proof temperature

30 degrees Celsius

Final proof relative humidity

80%

Final proof time

70 minutes

It burnt with an oven of 180 degrees Celsius in brioche dough prepared in this way ten minutes.

After it cooled off at 20 degrees Celsius after burning for 45 minutes, and having done, entered the plastic bag, and it was made sealing up, and it was further saved at 20 degrees Celsius (48 hours) for two days, and it was done with a brioche sample.

The softness and a texture of the bread were evaluated functionally 48 hours later.

A result is shown in Table 6 in a mass.

Note that,

The manufacturing processes of this bread are as follows.

Raw materials

Strong wheat flour 100 parts by weight

Yeast 5 parts by weight

Salt

2 parts by weight

Sugar

15 parts by weight

Powdered skim milk

4 parts by weight

An egg

50 parts by weight

Water

11 parts by weight

Oils and fats composition 6 parts by weight

It mix-kneads

Floor time (15 minutes)

Refrigeration fermentation (5 degrees Celsius, 12 hours)

↓

Warm a solution (30 degrees Celsius, 60 minutes)

↓

The division

↓

Bench time (room temperature, 20 minutes)

↓

The form is fixed

↓
Final proof (30 degrees Celsius, 70 minutes)
↓
Burning (180 degrees Celsius, ten minutes)
↓
A brioche

Table 6. The evaluation in the brioche

Note)

*1:A judgment of the softness of the bread

Circle...Eight or more out of the panel of ten people accepted that bread was tender.

Triangle...In the panels of ten people, 3-7 people admitted that bread was tender.

Cross...Eight or more out of the panel of ten people accepted that bread was hard.

*2:A texture (a sensuality evaluation) of the bread

Circle...Eight or more out of the panel of ten people accepted that bread was not sticky.

Triangle...In the panels of ten people, 3-7 people admitted that bread was not sticky.

Cross...Eight or more out of the panel of ten people accepted that bread was sticky.

(An effect of the invention)

By oils and fats composition of the present invention containing a nature gum agent selected from the group comprising karaya gum, Tragacanth gum and the pectin like the above mentioned and fatty acid ester of glycerin to dough it is kneaded, and the speed is remarkable and becomes fast and is remarkable and is soft and a texture can obtain improvement (not sticky) bread considered to be.

This is not accomplished by making a water aspect part merely thicken, and it is accomplished for the first time by putting particular nature gum agent and fatty acid ester of glycerin together.